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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
GOINS, DAVETTA WOODS	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/902,711
Filing Date: July 12, 2001
Appellant(s): FUKUI, KUNIHIKO

James M. Slattery
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 18, 2003 appealing from the Office action mailed December 11, 2002.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,327,900 B1	MC DONALD et al.	12-2001
5,382,942	RAFFA et al.	1-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-18 are rejected under 35. U.S.C. 103 as set forth in prior Office action, December 11, 2002.

(10)Response to Arguments

APPELLANT'S ARGUMETNS:

1) With respect to claim 1, the Appellant argues that "McDonald et al. Patent does not perform the function of integrating operating times and does not incorporate a "controlling means" that uses "an integrated value of the operation times" as a factor for starting the "oil exchange informing means. During high speed engine operation, a particular number of revolutions would occur in a period of engine operation that would be short compared to the time period required for the same number of revolutions during low speed engine operation."

2) With respect to claim 10, the Appellant argues "The counted revolutions of the engine obviously cannot be equated with the time of engine operation:..."

3) With respect to claims 2 and 11, "there is no disclosure or suggestion in McDonald et al. of storing in a controller a plurality of preset integrated values for either operation time or travel distance, and there is no disclosure or suggestion in McDonald et al. of rewriting any preset value to another preset value."

4) With respect to claims 5 and 14, "there is no disclosure or suggestion in McDonald et al. of using a microcomputer for storing a plurality of preset values for travel distances and operation time."

5) With respect to claims 7 and 16, "there is no suggestion in McDonald et al. using a preset value for operation time, much less such a value that is related to the degree of degradation of oil."

6) With respect to claims 9 and 18, "there is no disclosure or suggestion in McDonald et al. of using an integrated value of the operating time."

7) "The Raffa et al. Patent, cited by the Examiner for its disclosure of an odometer and illuminated indicators, obviously is of no use for curing the deficiencies of the McDonald et al. disclosure..."

EXAMINER'S RESPONSE TO APPELLANT'S ARGUMENTS:

1) As stated in the previous Final office action, McDonald et al. (McDonald) discloses a controller 14 that receives inputs from various sensors, one being an engine speed sensor 18. "The engine speed sensor 18 is applied to counter 30 via line 40 where it is divided down to a rate of one pulse per engine revolution and made available for acquisition via the data bus 42." (col. 3, lines 35-67). The engine revolutions are calculated during each period of vehicle operation (emphases added) to determine a new value for the remaining allowed engine revolutions to store in memory of the controller 14 (col. 4, lines 42-67).

The engine revolutions value is determined by multiplying the accumulated engine revolutions (operational times) over a predetermined interval....Various mathematical techniques may be used to accomplish this calculation. After the calculations have been determined and the remaining allowed engine revolutions value is below a predetermined threshold (preset value of operating times), the oil indicator will be actuated to indicate the oil should be replenished (col. 6, lines 1-23).

Although the counted revolutions do not specifically "equate" with time of operation, the use of time would have been obvious since McDonald clearly states that revolutions can be measured over a period of time (revolutions per minute being an industry standard for measuring engine revolutions), and that measuring time of engine operation would have provided an estimate of engine revolutions, without having to provide an extra sensor input if an estimate of revolutions was all that was needed. It appears that the time measurement is a less exact

measurement of engine performance, which one of ordinary skill in the art would have found obvious if more specific measurements were not deemed critical for changing oil.

2) As stated above, the calculations for determining the engine revolutions as well as accumulating the sum of the engine revolutions within a predetermined interval is done by the controller 14.

3) Please see Examiner's response to argument 1.

4) McDonald discloses a controller 14 that performs calculations (includes integration) with respect to determining the remaining life of the engine oil. "Each time the effective engine revolutions value is calculated and subtracted from the remaining allowed engine revolutions, a new value for the remaining allowed engine revolutions value is stored in memory." (col. 4, lines 50-67).

5) Please see Examiner's response to argument 1.

6) Please see Examiner's response to argument 4.

7) The Raffa et al. patent is used as a secondary reference to show that it is well known in the art to use an odometer for determining when the oil needs to be changed. Specifically, the odometer sensor 28 is in communication with microcomputer 24 to supply the system with the

"actual "distance" driven by the vehicle and the engine speed or tachometer signals generated by the electronic engine control (EEC) 30 indicative of the speed of revolution of the engine." (column 4, lines 5-19).

"The percentage that the remaining percent odometer oil life is decremented in response to the content of the odometer increment counter..." (col. 7, lines 27-42).

In summary, McDonald et al. disclosure includes a system that determines whether the oil should be changed. The system monitors the engine revolutions and engine speed. McDonald inherently discloses a system that measures distance (see arguments above), but does not specifically disclose an odometer. For this reason, the Raffa reference is properly incorporated to show that it is obvious to one skilled in the art to include an odometer for communicating distance information to the microcomputer to help determine when the oil should be changed.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Davetta W. Goins

Conferees:

DAVETTA W. GOINS
PRIMARY EXAMINER

Toan Pham (Primary Examiner)

Brent Swarthout (Primary Examiner)

DANIEL WU
SUPERVISORY PATENT EXAMINER

JEFFERY HOFSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600